

What is claimed is:

[Claim 1] 1. A silicon controlled rectifier comprising:

a first conducting-type substrate;
two second conducting-type deep wells separately disposed inside said first conducting-type substrate;
a gate above said first conducting-type substrate and between said two second conducting-type deep wells;
a first source/drain inside one of said two second conducting-type deep wells and at one side of said gate;
a second source/drain inside the other of said two second conducting-type deep wells and at another side of said gate;
a first conducting-type doped region inside said first conducting-type substrate; and
a first conducting-type doped floating region inside said one of said two second conducting-type deep wells and adjacent to said first source/drain, said first conducting-type doped floating region being floating when driving said silicon controlled rectifier.

[Claim 2] 2. The silicon controlled rectifier of claim 1, wherein said first conducting-type doped floating region is a P-type doped floating region, said two second conducting-type deep wells are N deep wells, said first conducting-type substrate is a P substrate, said first conducting-type doped region is a P-type doped region, and said first source/drain and said second source/drain are N-doped sources/drains.

[Claim 3] 3. The silicon controlled rectifier of claim 1, wherein said first conducting-type doped floating region is a N-type doped floating region, said two second conducting-type deep wells are P deep wells, said first conducting-type substrate is a N substrate, said first conducting-type doped region is a N-type doped region, and said first source/drain and said second source/drain are P-doped sources/drains.

- [Claim 4] 4. The silicon controlled rectifier of claim 1, further comprising a plurality of isolation structures between said two second conducting-type deep wells, said gate, and said first conducting-type doped region.
- [Claim 5] 5. The silicon controlled rectifier of claim 1, further comprising a plurality of second conducting-type doped extension regions inside said first conducting-type substrate and adjacent to said two second conducting-type deep wells.
- [Claim 6] 6. The silicon controlled rectifier of claim 5, wherein said plurality of second conducting-type doped extension regions is N-type doped extension regions.
- [Claim 7] 7. The silicon controlled rectifier of claim 5, wherein said plurality of second conducting-type doped extension regions is P-type doped extension regions.
- [Claim 8] 8. The silicon controlled rectifier of claim 1, further comprising a plurality of first conducting-type doped extension regions inside said first conducting-type substrate and adjacent to said first conducting-type doped region.
- [Claim 9] 9. The silicon controlled rectifier of claim 8, wherein said plurality of first conducting-type doped extension regions is N-type doped extension regions.
- [Claim 10] 10. The silicon controlled rectifier of claim 8, wherein said plurality of first conducting-type doped extension regions is P-type doped extension regions.